

Utah Department of Transportation Traffic Management Division

January 2016
Monthly Report



2060 South 2760 West Salt Lake City, Utah 84104 801-887-3710 www.udottraffic.utah.gov



Mission of the Traffic Management Division

- To Support UDOT and the Department of Public Safety to Achieve Zero Fatalities.
- To Help Provide Reliable and Efficient Travel Throughout Utah.
- To Provide Useful and Timely Real-time Traffic Information.
- To Work Together with Other Government Agencies to Serve the Public.
- To Provide Excellent Customer Service.

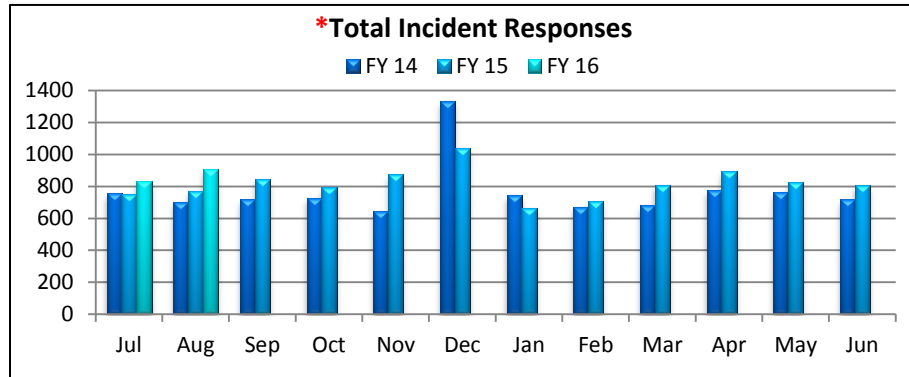
Field Devices Summary

Freeway PTZ Cameras	378	Freeway VMS	97
Arterial PTZ Cameras	452	Surface Street VMS	49
RWIS & Contracted Weather Cameras	215	Portable TOC VMS	7
Viewable Detection Cameras	59	Legacy Trucks Prohibited VMS	21
Total Cameras	1,104	Variable Speed Limit VMS	15
HAR (27 permanent/5 portable)	32	Chain-Up Signs	19
RWIS	98	Total VMS	208
Ramp Meters	63	TMS	542
Express Lane Plazas	73	Traffic Signals	2,131

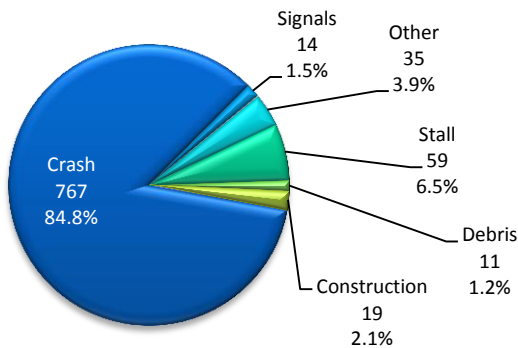
Operations Summary

VMS Messages Displayed	84,041	IMT Assists	1,675
Signal Timing Work Orders	29	Website Visitor Sessions	360,261
Signal Maintenance Work Orders	138	511 Calls	36,918
All New Work Orders	381	Weather Desk Calls	1,104
Incident Responses by the TOC	905	Ask CommuterLink Questions	98
Incident Duration Average Minutes	58	UDOT Traffic Followers and Re-tweets	412,552

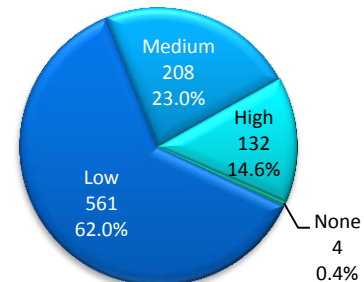
An incident response occurs each time an incident is recorded in the ATMS system. These can be of several types, including crash, construction, debris, stall, congestion, or other. Crashes are separated into three subcategories: property damage, personal injury, and fatal. Each time an incident is created, information is sent to the 511 system, the website, and to the public through email alerts. An incident remains active until it has been completely cleared from the roadway.



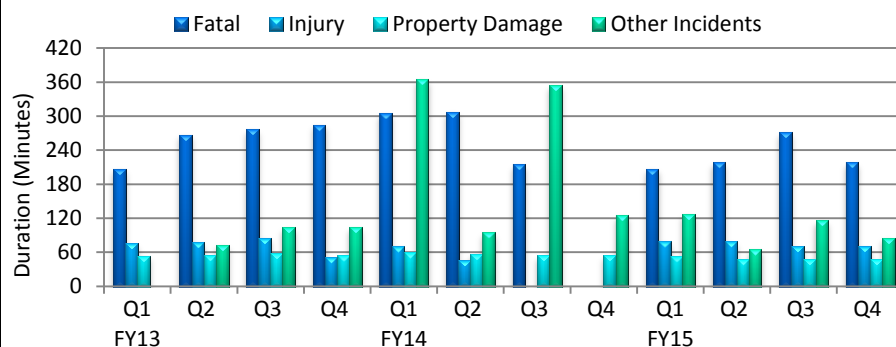
***Incidents By Type for August 2015**



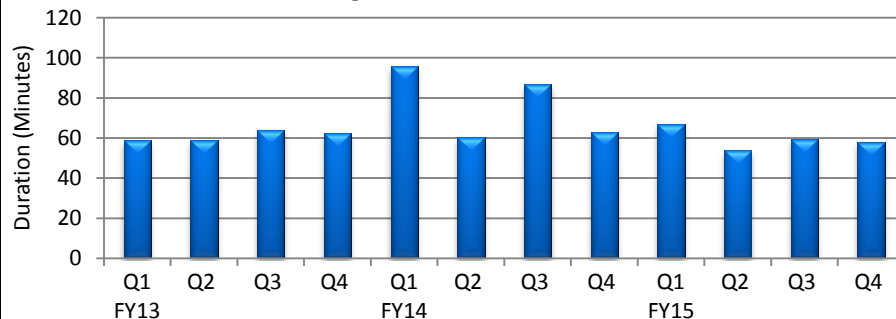
***Incidents by Severity for August 2015**



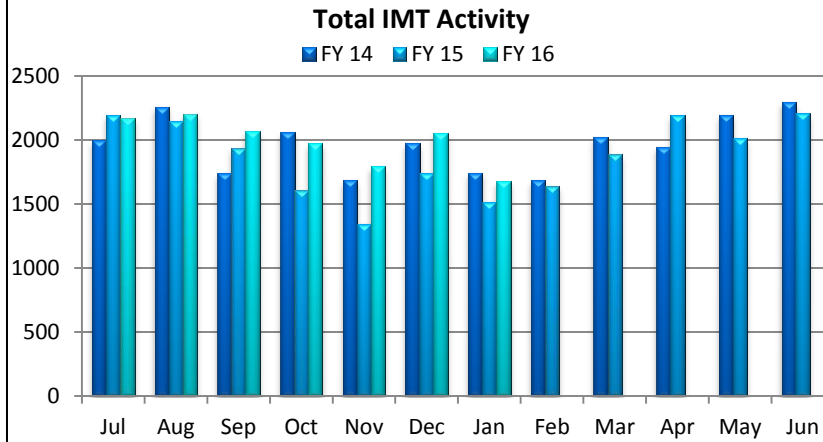
***Average Crash Duration**



***Average Duration of All Incidents**

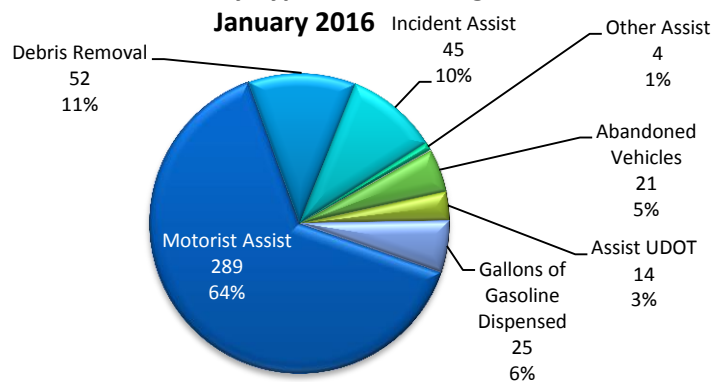


Incident Management Team (IMT) Activities



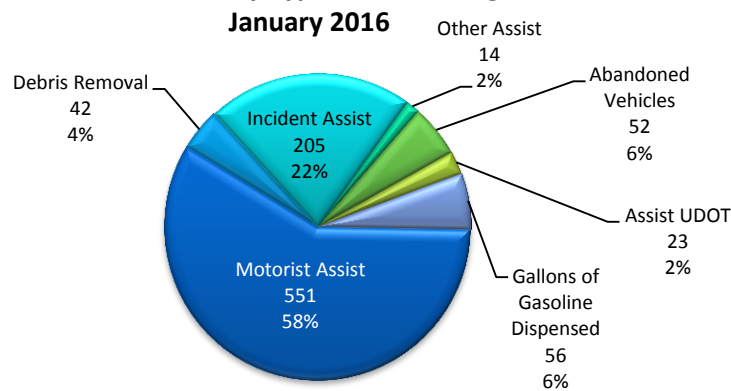
IMT Activities by Type for UDOT Region 1

January 2016



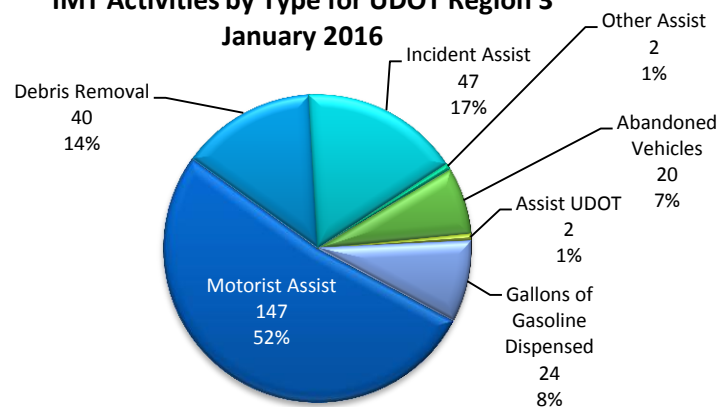
IMT Activities by Type for UDOT Region 2

January 2016



IMT Activities by Type for UDOT Region 3

January 2016



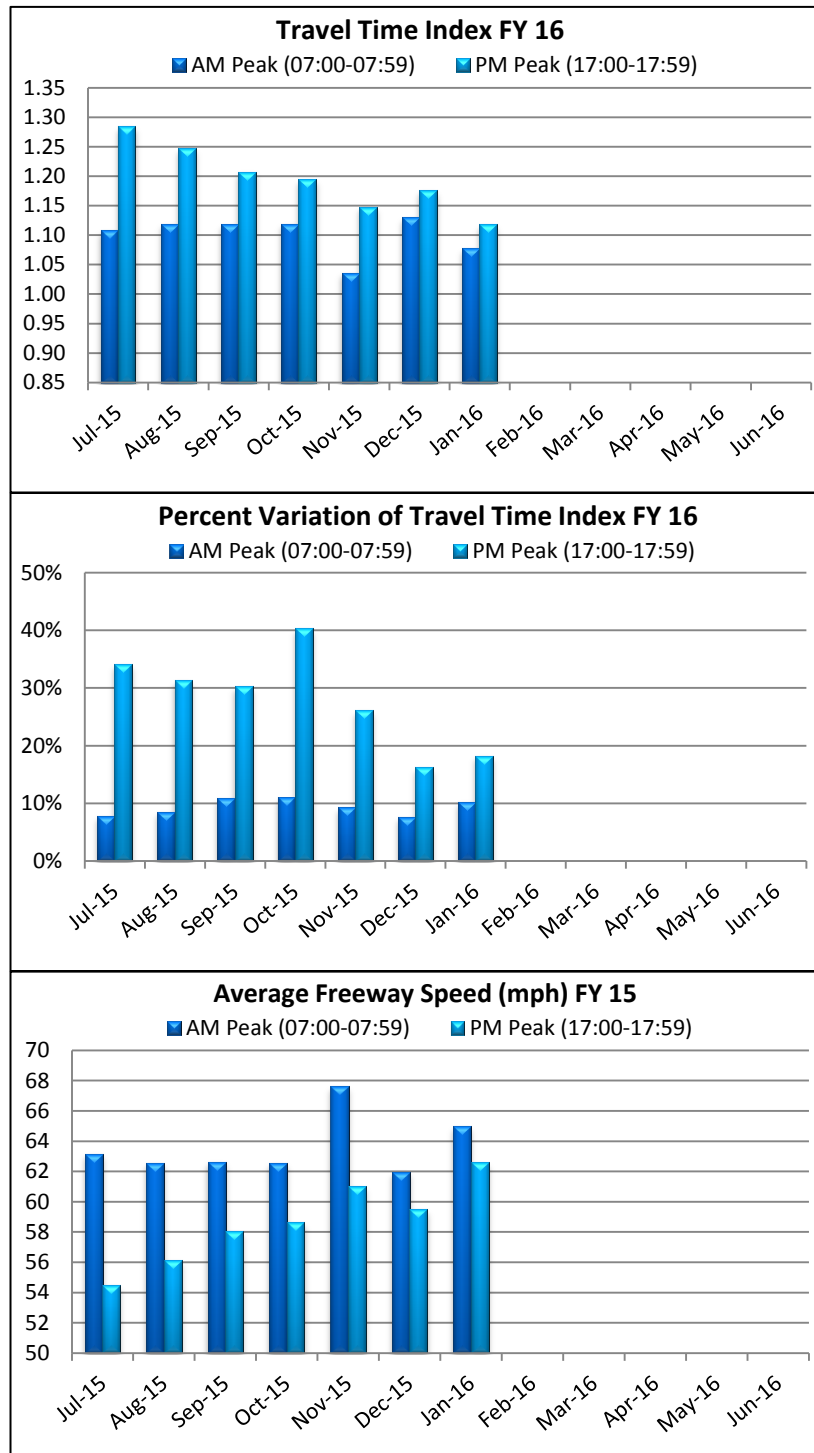
Freeway Traffic Level of Service

Freeway flow measures are taken from the Traffic Monitoring Stations (TMS) located throughout the Wasatch Front. As more TMS sites are installed throughout the state, they will be included in these performance measures.

Travel Time Index: This measure of mobility is based on freeway speeds and is weighted by segment lengths and by the traffic volume. A value of 1.0 represents free-flow speeds. A value of 1.12 indicates that the average vehicle trip takes 12% longer than if that were the only vehicle on the freeway.

Percent Variation of Travel Time Index: The percent variation in the Travel Time Index is a measure of how much the Travel Time Index changes from day-to-day.

Average Freeway Speed: The freeway speed is weighted by volume.



Freeway Traffic Level of Service

Peak Travel Time Index by Segment for January 2016

(+) Direction (NB, EB, Clockwise)

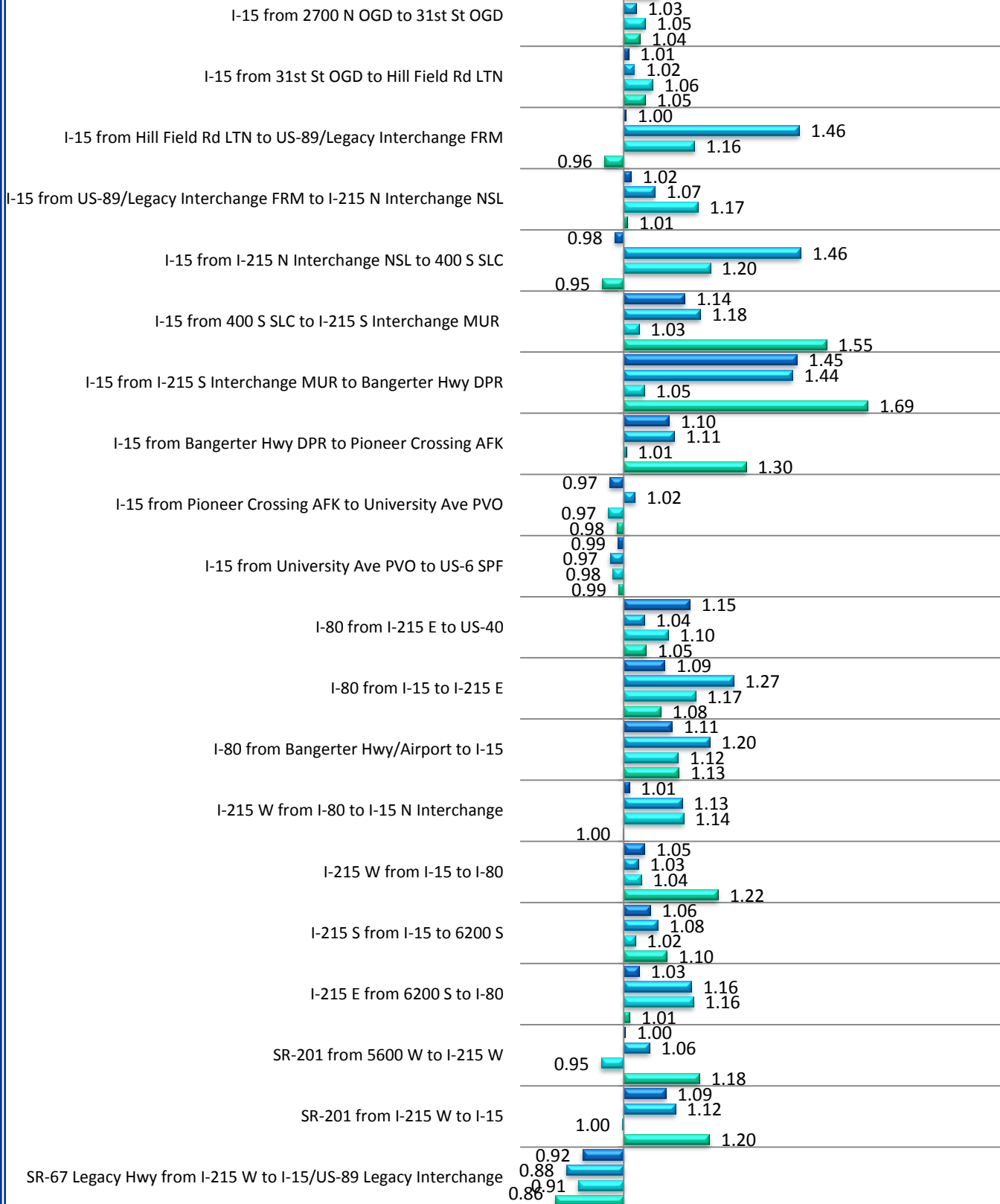
(-) Direction (SB, WB, Counter Clockwise)

■ AM Peak (07:00-07:59)

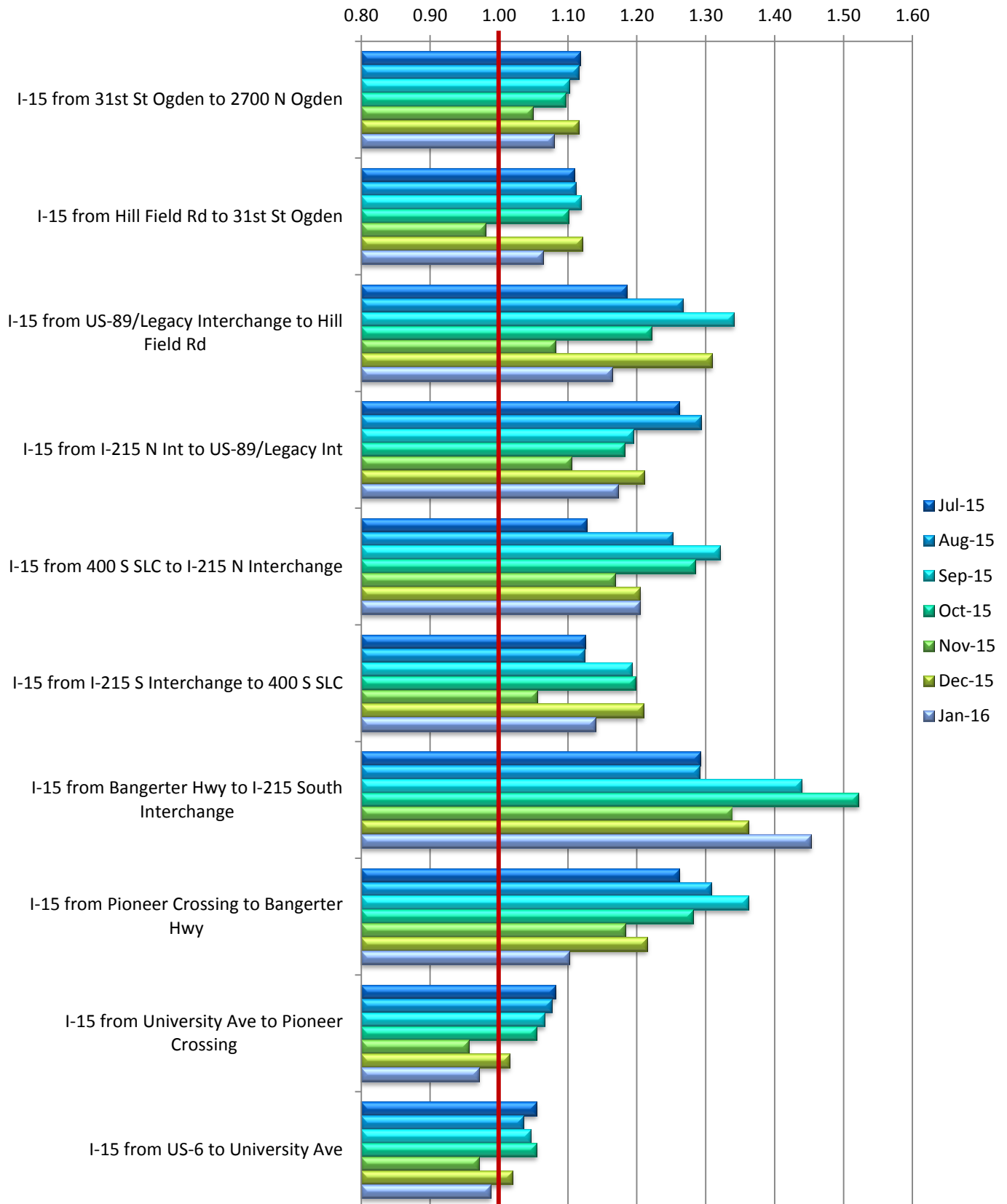
■ PM Peak (17:00-17:59)

■ AM Peak (07:00-07:59)

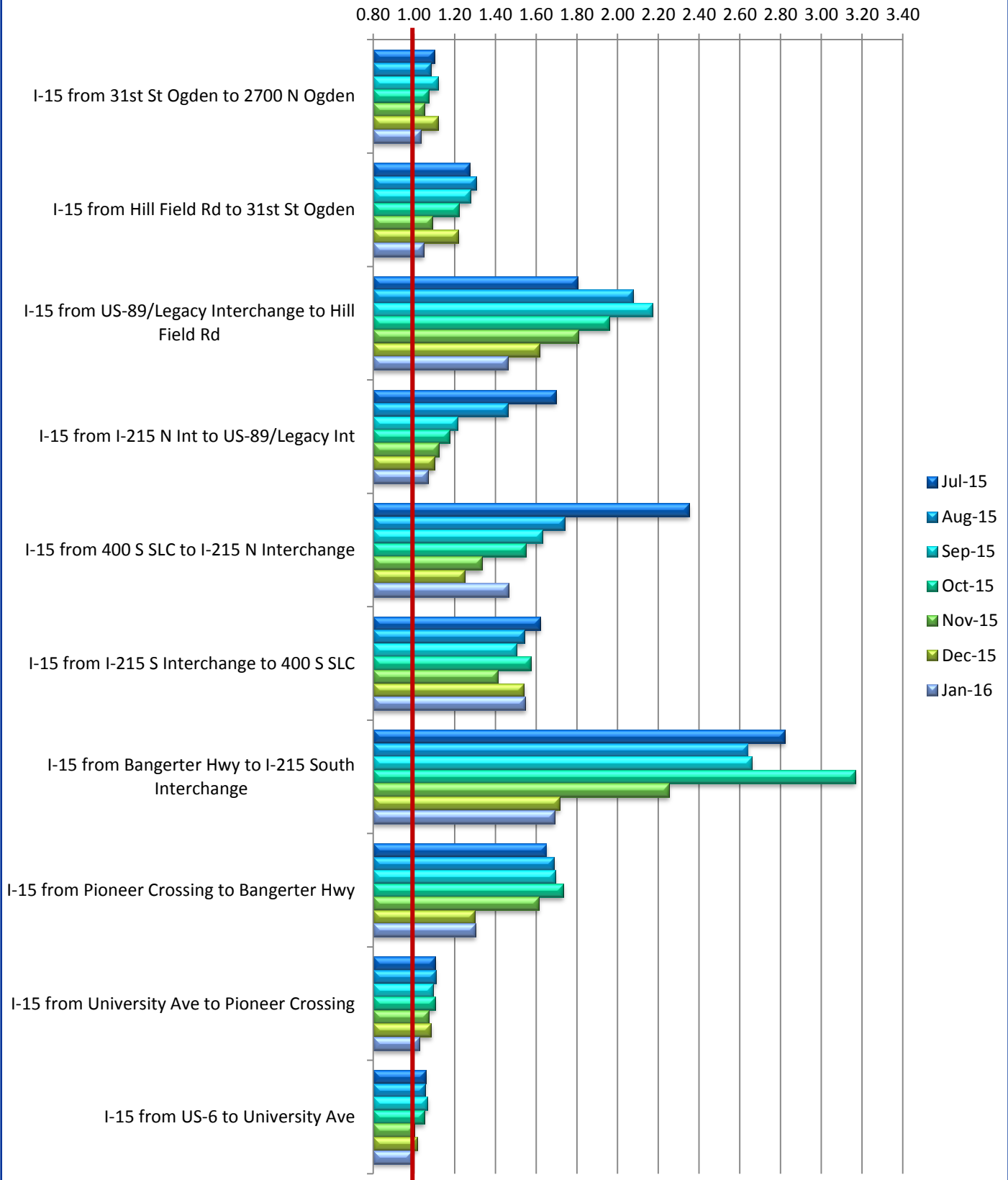
■ PM Peak (17:00-17:59)



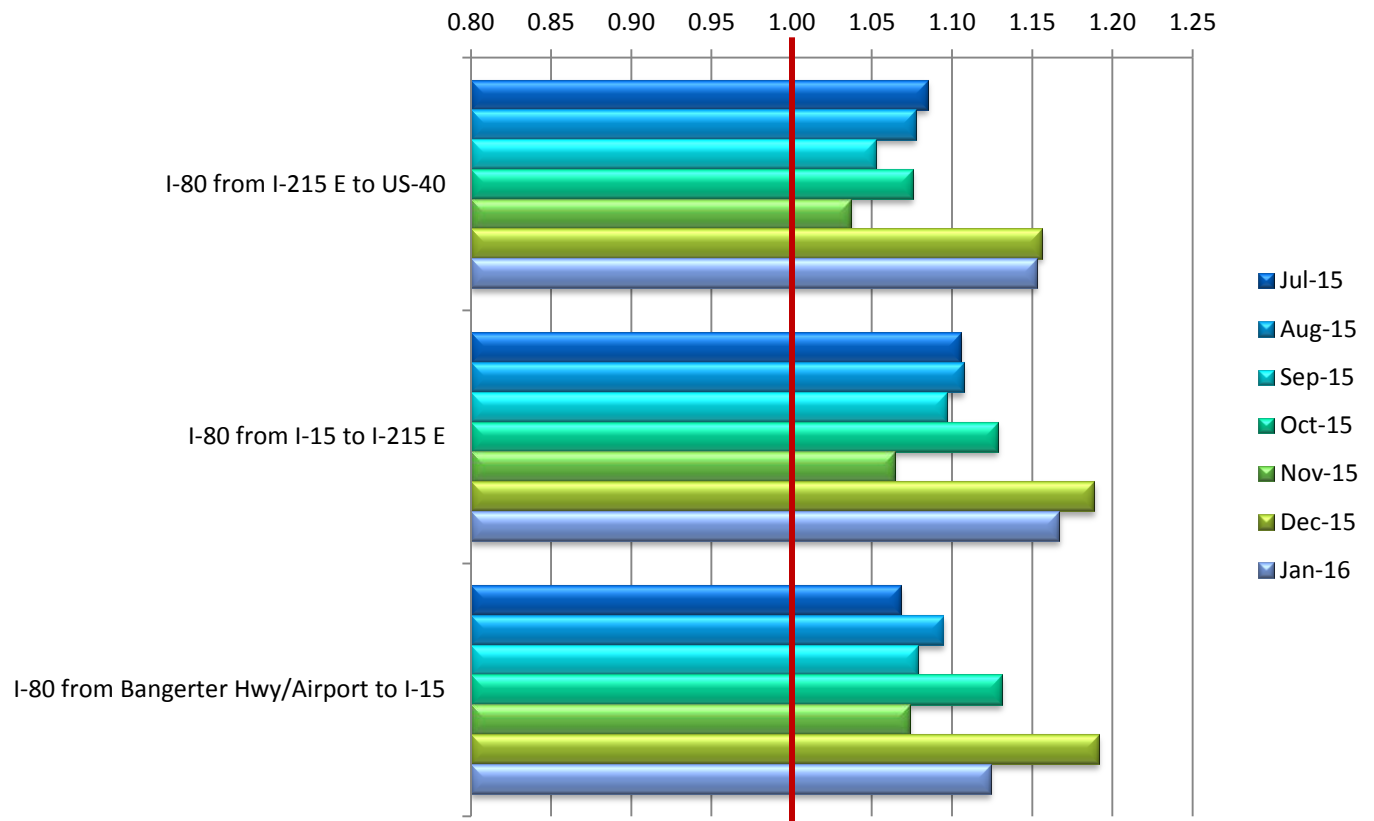
AM Peak Travel Time Index for I-15 FY 16



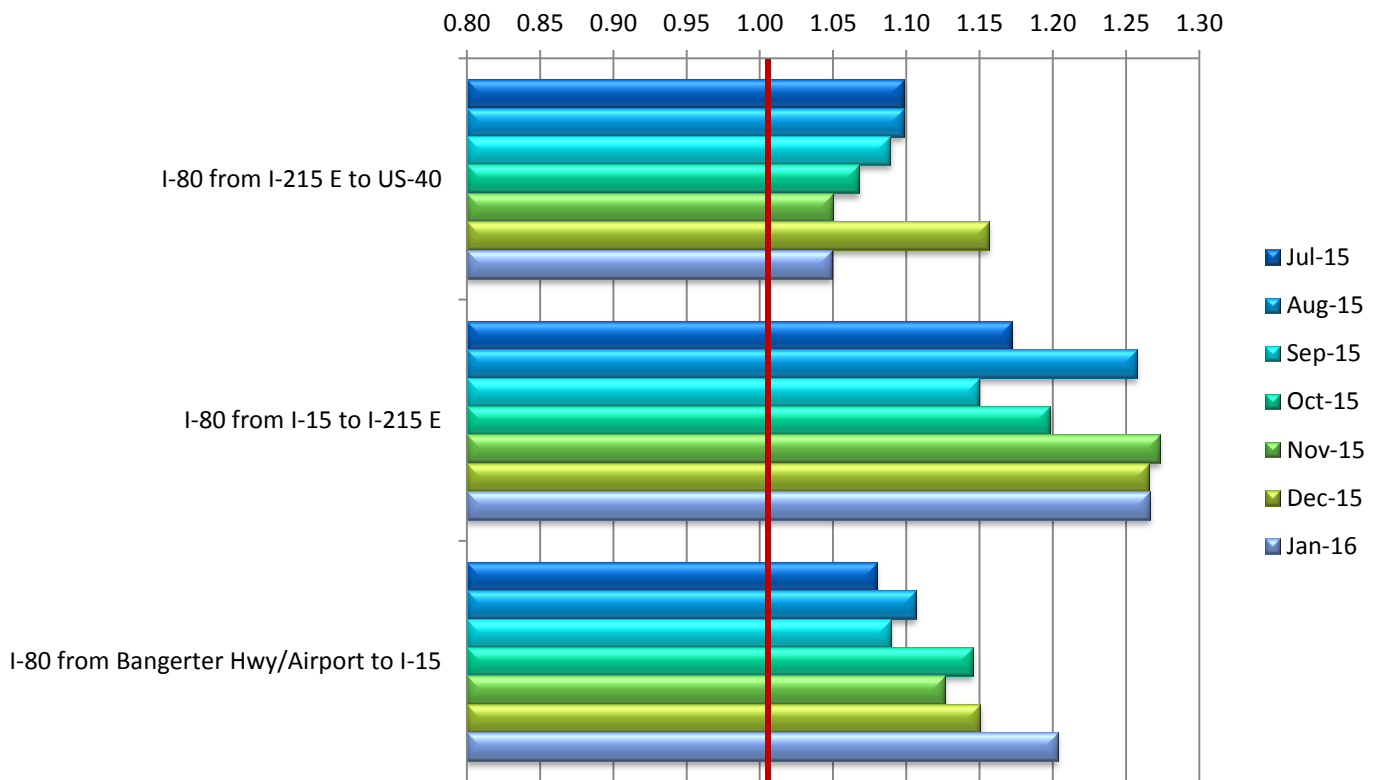
PM Peak Travel Time Index for I-15 FY 16



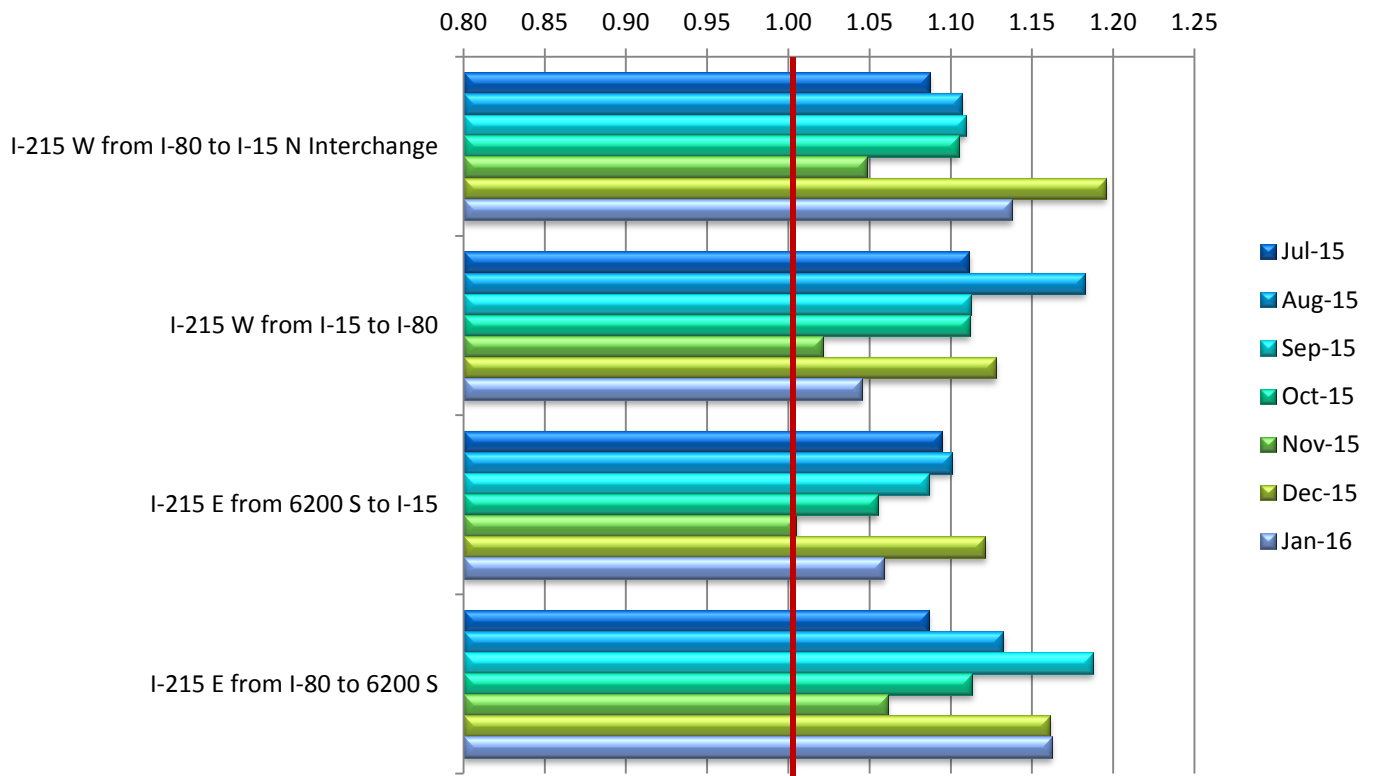
AM Peak Travel Time Index for I-80 FY 16



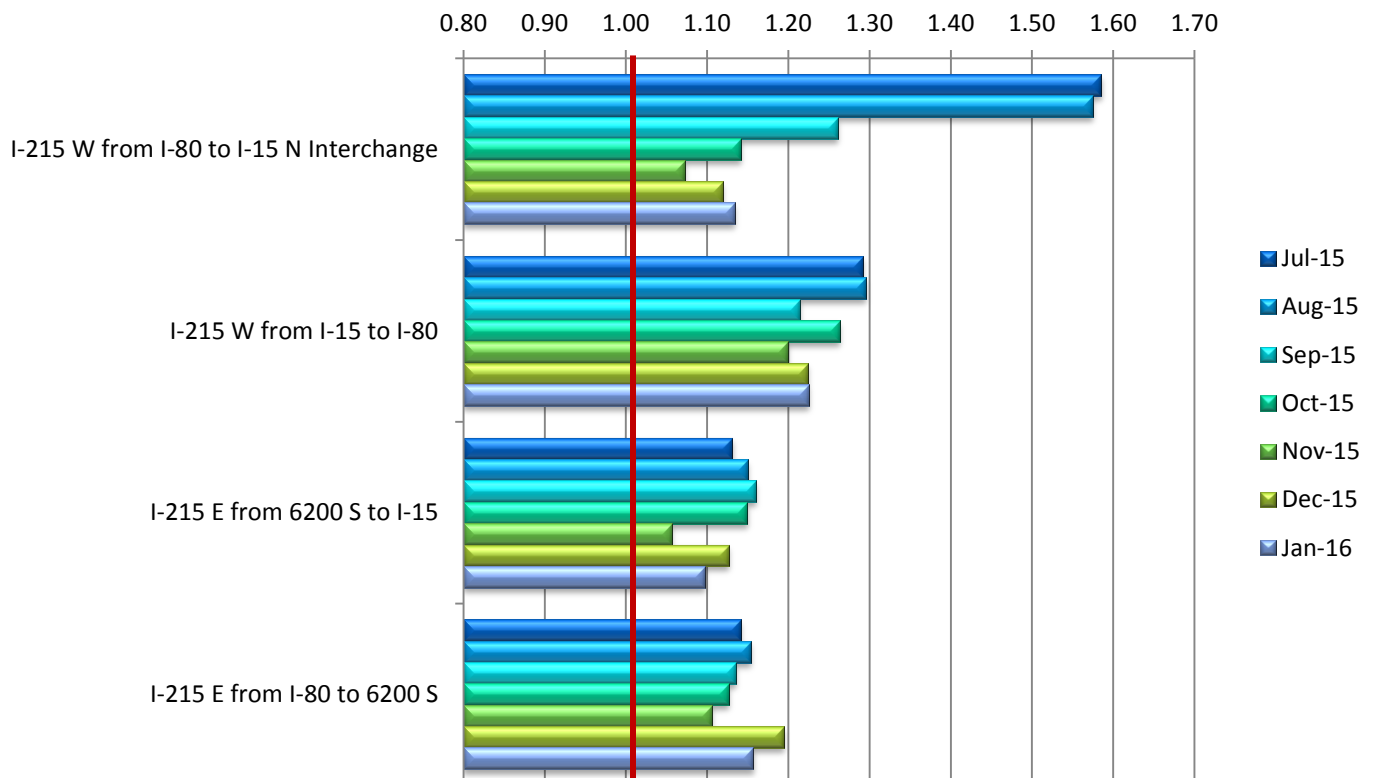
PM Peak Travel Time Index for I-80 FY 16



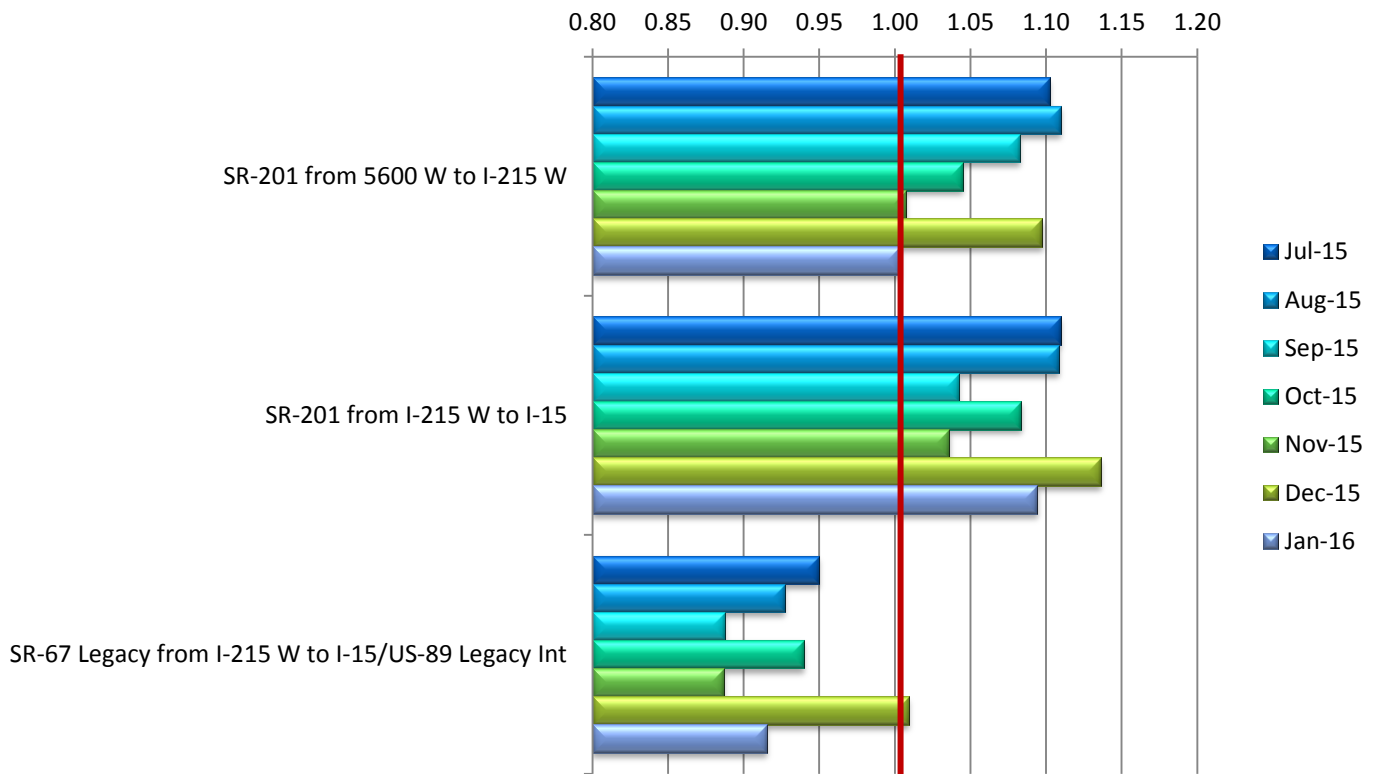
AM Peak Travel Time Index for I-215 FY 16



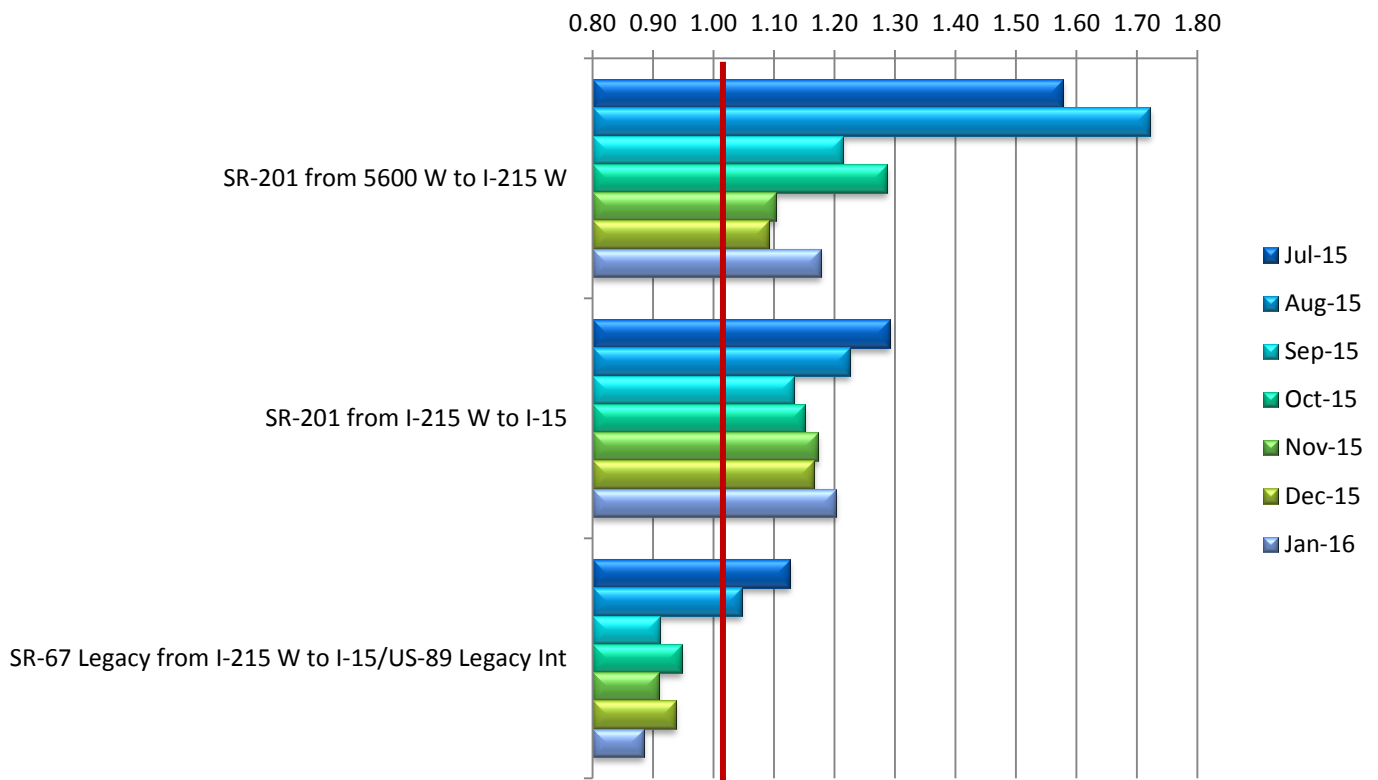
PM Peak Travel Time Index for I-215 FY 16



AM Peak Travel Time Index for SR-201 and SR-67 Legacy Hwy FY 16

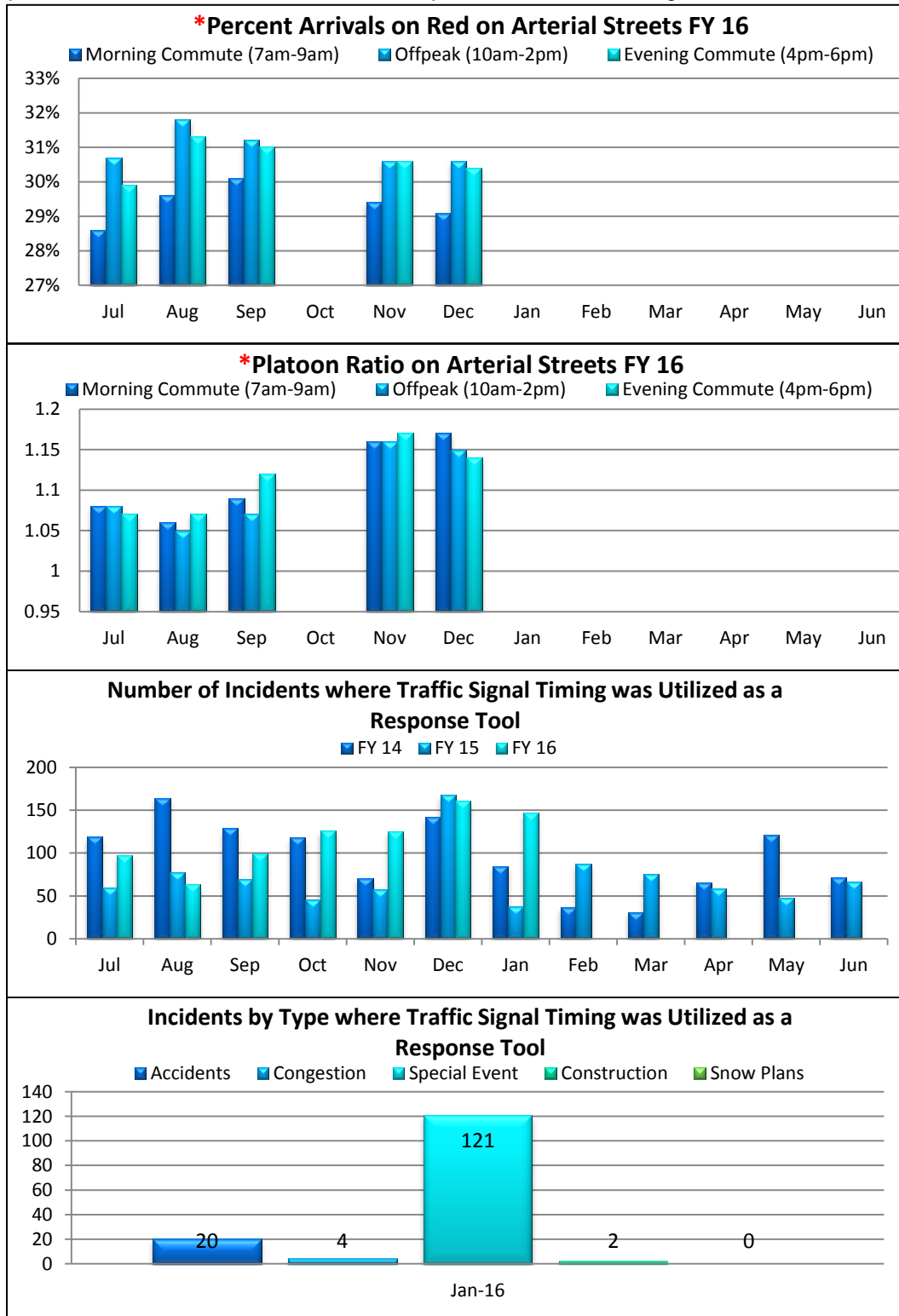


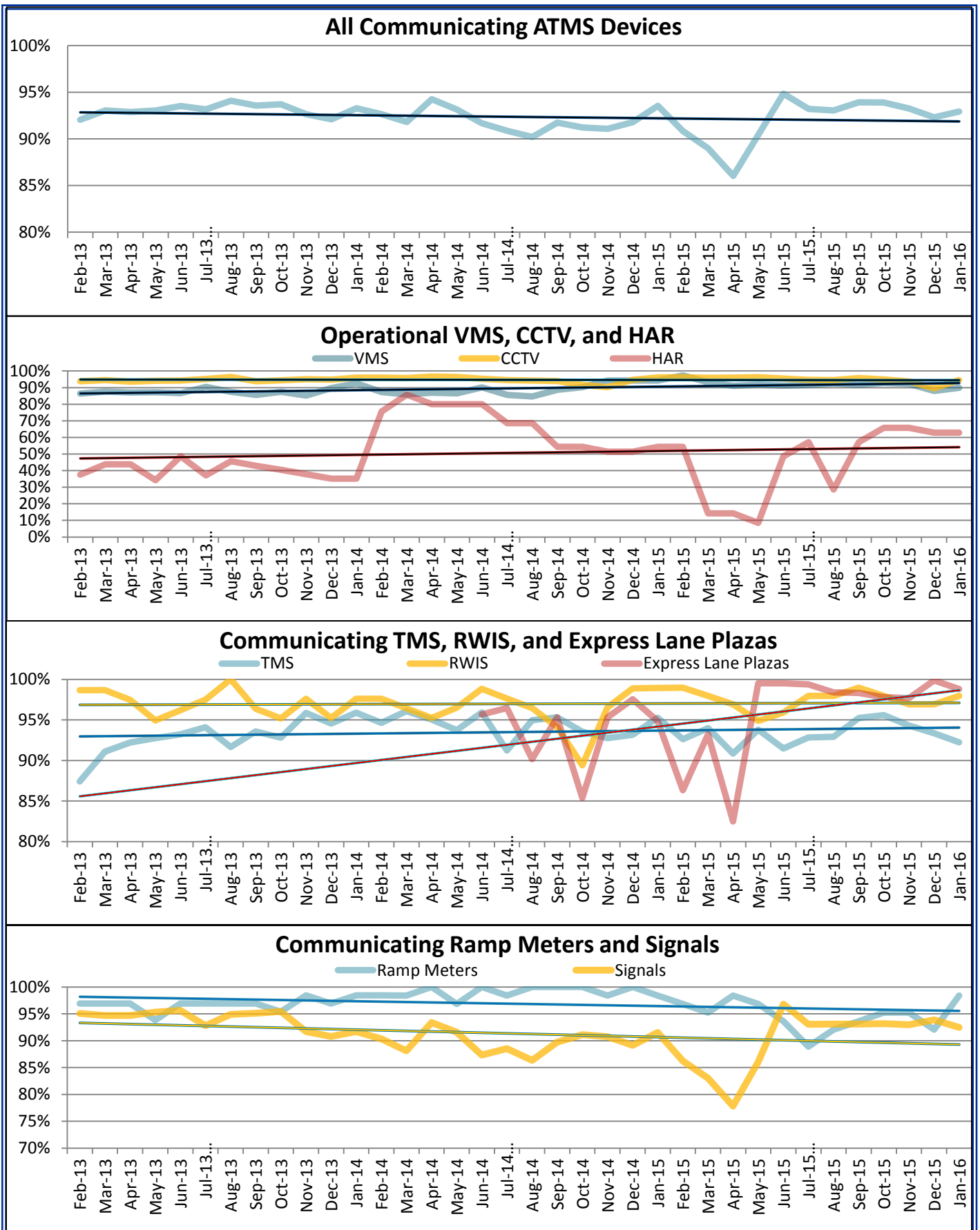
PM Peak Travel Time Index for SR-201 and SR-67 Legacy Hwy FY 16



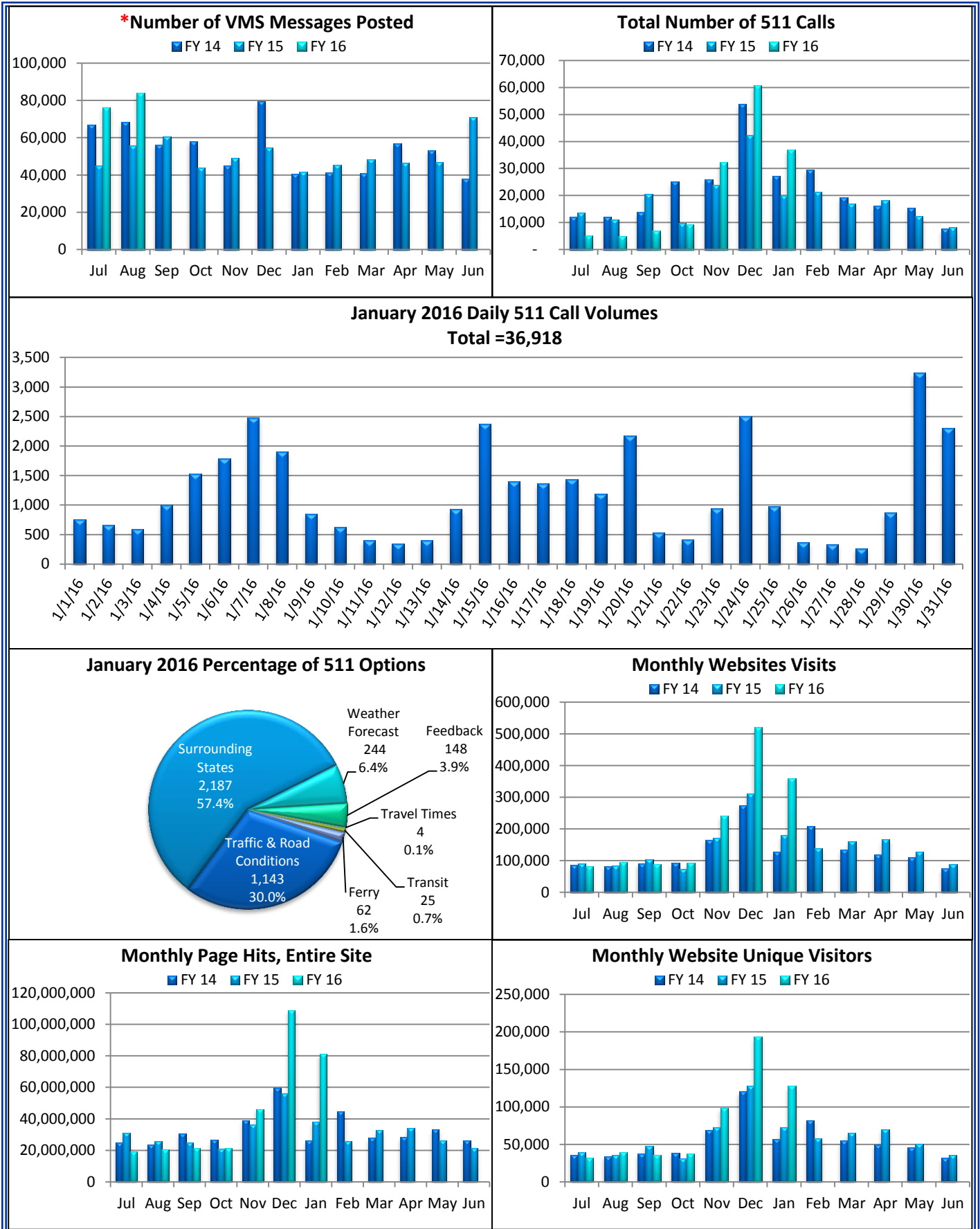
Arterial Traffic Level of Service* *No data available for January 2016*

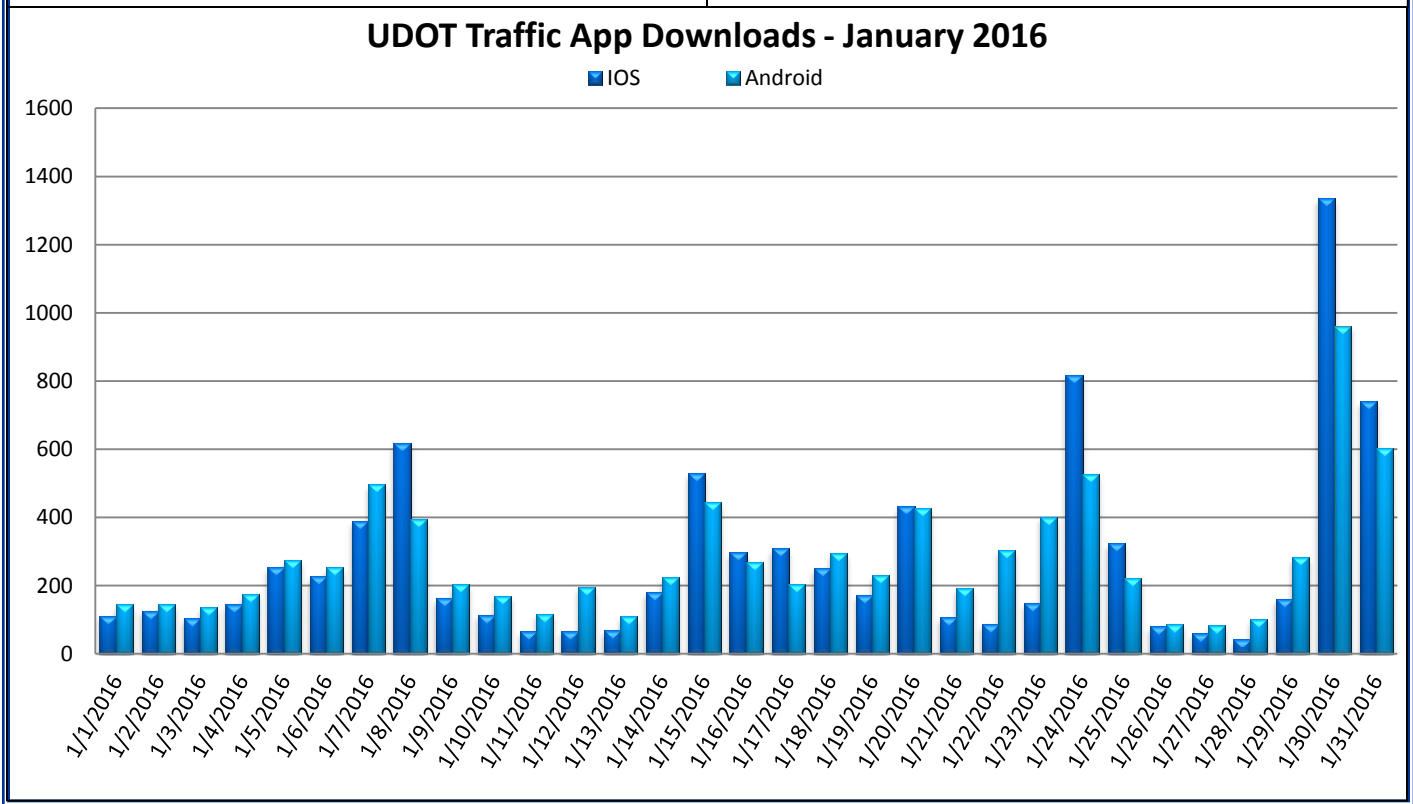
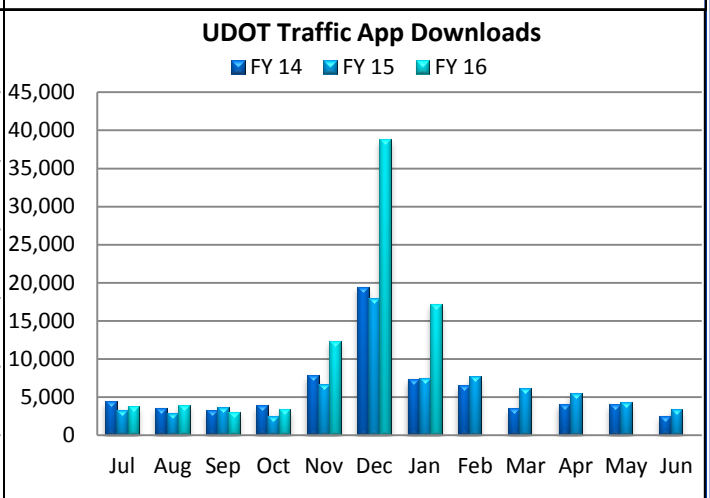
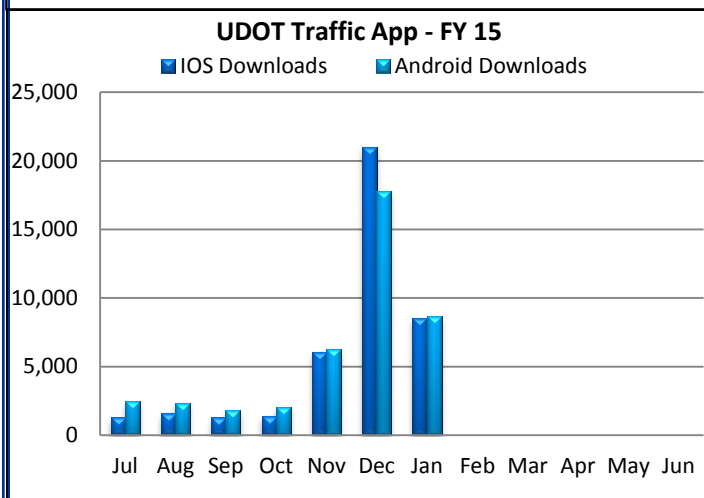
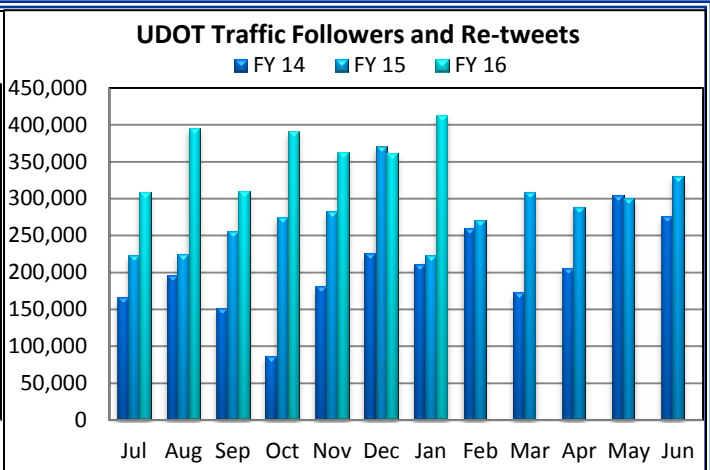
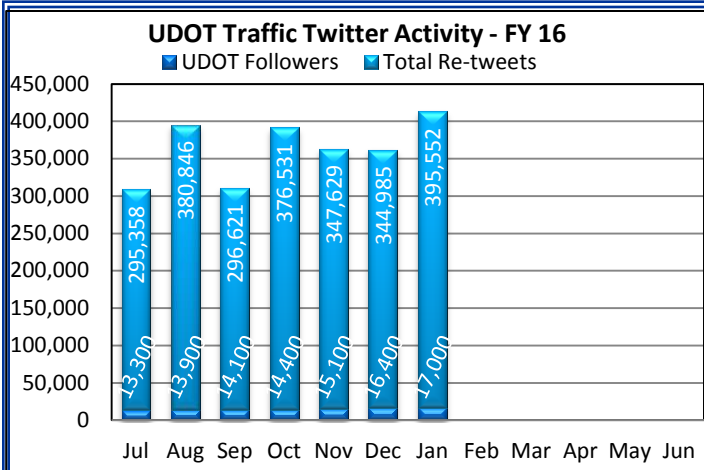
The percent arrival on red along the arterial statistics are generated automatically through the automated traffic signal performance measures, which show real-time and historical functionality at signalized intersections. The system automatically time-stamps when each vehicle arrives at the intersection and then compares the detection time-stamp if the phase was green or red. The percent arrival on red data is averaged over the 24 hours of the day and days in the month. . The lower charts shows the number of incidents where traffic signal timing was modified in order to help traffic flow around closed lanes, or to help relieve excessive congestion.





Traveler Information **Note – No VMS Data received Since August*

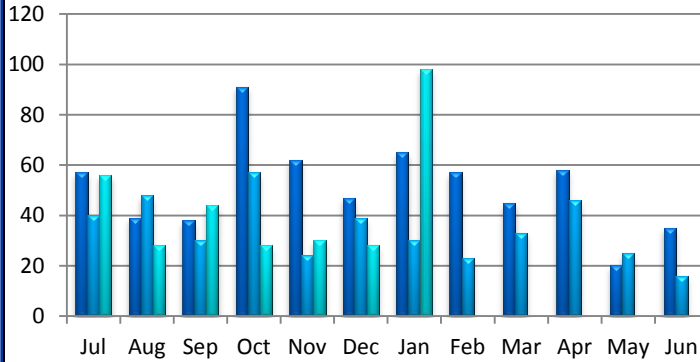




Customer Service

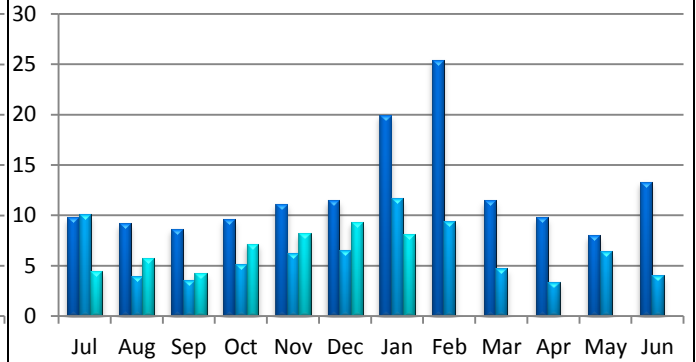
Number of "Ask UDOT Traffic" Questions

FY 14 FY 15 FY 16

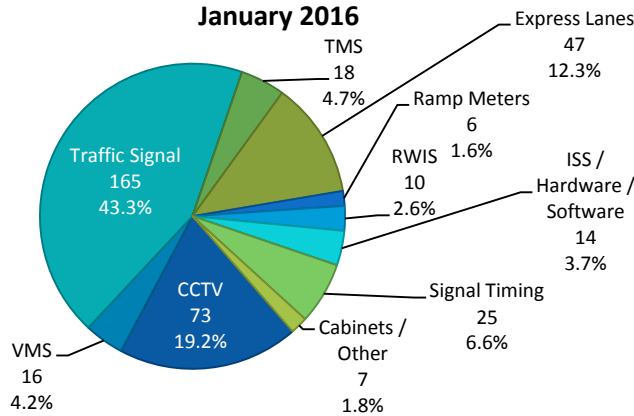


Overall Average Work Order Turnaround Days

FY 14 FY 15 FY 16

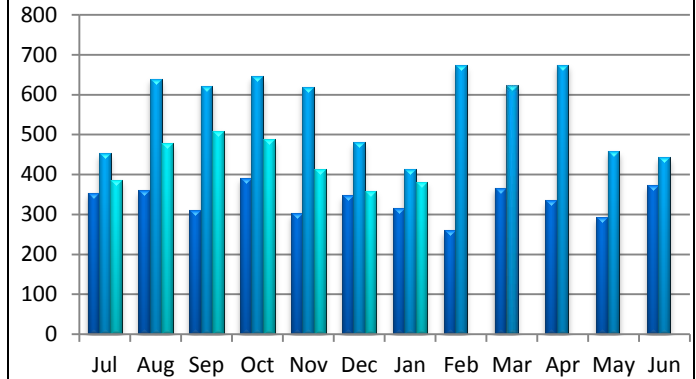


**New Work Orders by Device Type
January 2016**



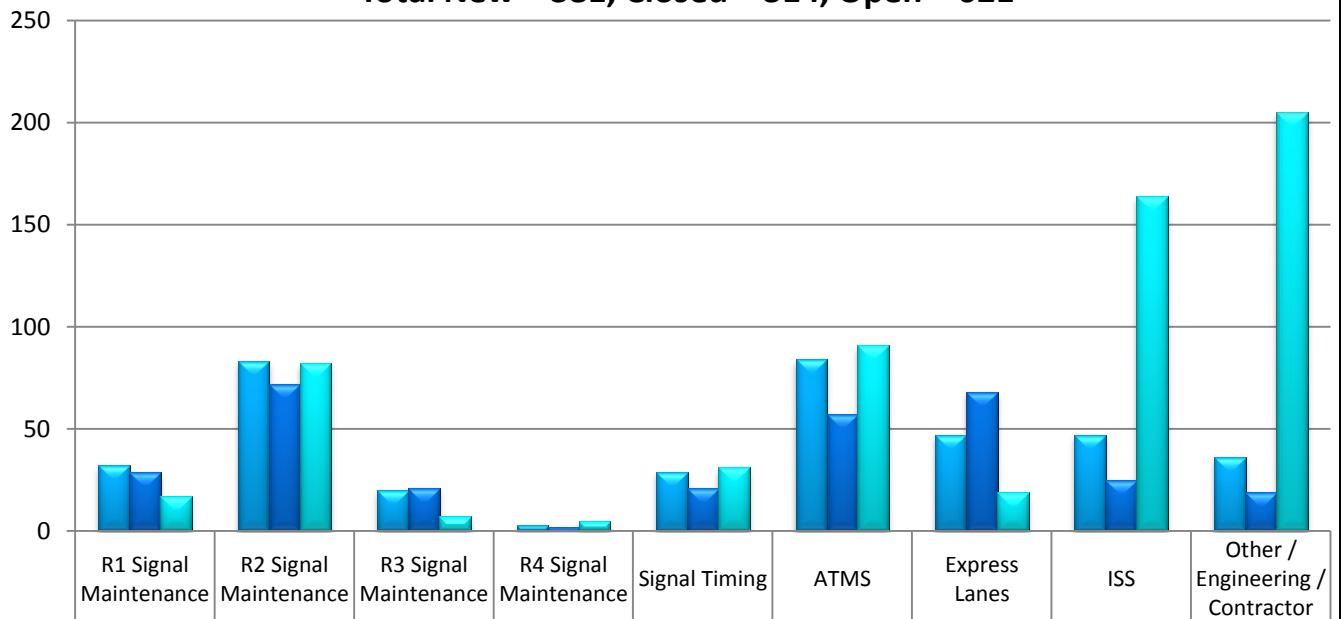
Number of New Work Orders

FY 14 FY 15 FY 16



Work Order Statistics by Group - January 2016

Total New = 381, Closed = 314, Open = 621



	R1 Signal Maintenance	R2 Signal Maintenance	R3 Signal Maintenance	R4 Signal Maintenance	Signal Timing	ATMS	Express Lanes	ISS	Other / Engineering / Contractor
New	32	83	20	3	29	84	47	47	36
Closed	29	72	21	2	21	57	68	25	19
Open	17	82	7	5	31	91	19	164	205

CONTROL ROOM

The several winter storms statewide and special events during January caused a busy month in the Control Room. Operators managed 1283 incidents and handled 1247 phone calls in addition to the common daily tasks of posting VMS messages, emergency alerts, 511 messages, monitoring events, adjusting signal timing plans and registering work orders for ATMS maintenance. Message Monday, air quality and other PSA messages were posted throughout the month. Two portable VMS were deployed in Parleys Canyon during the last weekend of the month for a high wind event in the canyon as an effort to reduce traveler risk. VMS messaging, 511, Emergency Alerts, and signal timing were used to support the annual Sundance Film Festival in Park City.

The high winds, rain, snow and ice of January storms caused the control room team to activate Chain/4x4 restrictions, VSL events in Parleys Canyon, air quality messaging and support avalanche control measures. Wyoming closed US-191 and I-80 several times throughout the month, requiring Control Room support.

The Traffic Operations Center Liaison was activated three times in the month of January for various incidents.

The Control Room staff, with UDOT Leadership, Communications, and traveler information staff completed the Milepost Alias Project. This links highway mile posting to landmarks and locations familiar to the public, which will be used to improve traveler information from the control room. Previously, mile posting, which can be confusing to the public, has been used to locate incidents for Traffic App, website, and internal notifications. This project will go live in the near future.

The Control Room staff supported the funeral procession of UPD Officer Doug Barney as it proceeded from West Valley City to Holliday, and on to the cemetery. The procession was several miles long and resulted in several main line and ramp closures along the route. VMS and traveler information resources (twitter, UDOT Traffic App, and the UDOT website) were all used as the control room supported this final tribute to Officer Barney.

TRAVELER INFORMATION

The traveler information staff provided special event assistance for the Sundance Film Festival, Officer Barney's funeral and the 2015 Zero Fatalities review. They also provided outreach to the FHWA Pooled Fund Study Group and assisted UDOT Communications with media inquiries.



WEATHER INFORMATION

The UDOT weather group had 899 overall UDOT weather interactions, 187 outgoing weather alerts, 28 NWS collaborations, and 26 road weather alerts.

Climatology

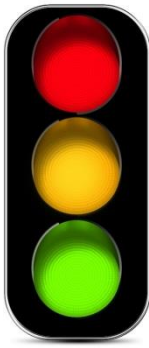
Statewide, average temperatures were about normal and precipitation was a little above normal. There were 20 days of measurable precipitation, but only 10.5 inches of snow fell, which was two inches below average for the Salt Lake Airport. There were several storms statewide in January, with four major storms affecting the Wasatch Front commute.

Weather Operations

The Weather Operations group attended a meeting to discuss portable VMS placement during potential blowing snow events in Parley's Canyon.

ITS ASSET MANAGEMENT

ITS asset management integrated one freeway, two surface streets, four RWIS CCTVs, three new signals, and removed six intersection detection CCTV's. The team assisted ATMS maintenance review junction box cover specifications, worked with the weather group to prepare the work order installing highway lighting at 16 RWIS sites and continued reviewing CCTV images available to UDOT websites and apps.



TRAFFIC SIGNAL OPERATIONS

Region 1

Region 1 turned on a new signal at SR-127 at 3000 West in Syracuse and rebuilt the signal at Washington Blvd and 26th Street in Ogden.

Region 2

Region 2 completed the HAWK signal at 1060 South State Street and the pedestrian flashing beacon on 5400 South at Rockford Street. Radar and SPM's were configured at several intersections that had detection installed with recent paving projects. New AM and PM coordination plans were installed, helping North/South traffic on Mountain View Corridor from 13400 South to Daybreak Parkway. Traffic management was done for the annual Sundance Film Festival.

Region 3

Region 3 turned on a new traffic signal at 200 South & University Avenue, ran special event timing plans for the new Provo City Center Temple and Officer Barney's funeral procession in Orem, and performed preemption evaluation with the railroad at three intersections.

Region 4

Region 4 performed preemption evaluation with the railroad at two intersections, repaired several ground faults on the street lighting system, focused on catching up on ground PMs and MMU testing, and helped train Washington City staff on basic signal maintenance.

Field

The camera lowering system installed by the Core Project on I-15 NB at 500 South experienced a short in the cable somewhere inside the pole and most likely in the lowering system arm. The reach of our largest boom truck would not allow us access to the arm supporting the camera. It was necessary to abandon the operational lowering system in place and mount a camera 17 feet below the existing camera. The existing camera was lowered and salvaged back to the TOC. In order to utilize as much of the existing underground cable, the field team placed a cross connect box on the base of the pole and installed new cable between the box and the new camera.

The field team combined forces with the lab team in a joint effort to complete two LFOTs, one each in Logan and Provo Canyon. The Logan LFOT was for a portion of the CCTVs being installed. The Provo Canyon project consisted of CCTV, RWIS, TMS and WANCO VMS sites. The teams also joined, assisted and observed Daktronics' technicians upgrade the firm-ware on the Point Project. A Type 1 VMS was installed on I-15 at 11200 South.

There were a total of 39 work orders completed for the month of February.

Lab

A total of 25 devices were tested/repared including Digi terminal servers, traffic signal controllers, 2070 controllers, wireless radio, Wavetronix radar and CCTVs. Configured and burned in three traffic signal cabinets, one of which was new and two used cabinets. The lab replaced the entire SDLC bus on one of the used traffic signal cabinets. One new traffic signal cabinet was out loaded to Cache Valley Electric for a HAWK Crossing on 10600 South State Street. Two used cabinets were out loaded to Hunt Electric for detection upgrades. The team performed an LFOT for a project in Logan and for Provo Canyon. We began the evaluation of a Cohu Rise IP camera with AM Signal. Changed flooded cell batteries in Wanco mobile VMS signs 8380-20-046 and 8380-20-049. Transported and set up two Wanco mobile VMS signs on I-80 MM 133.2 EB and MM 136.6 WB for ice and wind warning. Assisted the Express Lanes team with maintenance for the following locations I-15 at 114th South NB, 106th South NB, 13th South NB, 600 North NB, 2100 North in Lehi NB, 114th South SB, 123rd South SB, 53rd South SB. There are 11 open work orders, seven which are on hold for loop replacements. The Electronics Lab closed 12 work orders during the month of January.

Express Lanes Team

The Express Lanes team closed 47 work orders. The team rebooted three, repaired and reconfigured 14 lane controllers and rebooted five VTMS. Express lanes team performed the usual system drive, reset two readers, re-spliced one cat-5 sign communications cable and conducted 30 cabinet PM's. With the help of Sam Gines and David Putnam, four sets of Sensys Pucks and an A.P. were replaced. The team also rebooted three pucks for sensor recalibration, eight lane PM's were performed.

Cross training with Loren Jackson was completed and cross training with JT began with assistance from Craig Wright.

Region 1

- ❖ **Statewide Signal Interconnect:** PineTop Engineering has been working on the design for this to advertise.
- ❖ **28th Street and Washington:** Under construction.
- ❖ **SR-126 & 1300 N:** Under construction.
- ❖ **I-15; SR-30 to the Idaho State line:** This project has been designed by PineTop Engineering and is ready to advertise. This project needs major funding for ATMS. This project may be part of a partnership with a telecom.
- ❖ **Layton Interchange:** This project is in design.
- ❖ **SR-127 & 3000 W:** Under construction.
- ❖ **Logan Main Street Fiber Interconnect:** This project has been completed.
- ❖ **US-89; Antelope Drive Extension:** This project is under construction.
- ❖ **Logan CCTV's:** This project is under construction.

Region 2

- ❖ **New CCTV on SR-201:** Design was completed and we will get a contractor to construct the new cameras. This will add two new cameras at the I215 west and SR 201 interchange improving visibility to the clover leaf ramps and the SR201 alignment.
- ❖ **Ramp detection project at I215 South to I-15 interchange :** New detectors will be added to the ramps to improve travel time calculations and volume counts in some of the gaps in the ramp system.

Region 3 January 2016

- ❖ **SR-92 CCTV/Hybrid VMS (12641):** Completed additional splicing at the Hub to accommodate required new channel. Integration completed. Began 30 day burn-in.
- ❖ **Saratoga Springs; Pony Express; SR-68 to 800 West (8581):** CCTV installed. Integration completed. Began 20 day burn-in.
- ❖ **Region 3 traffic signal connections (12774):** Field inspected three signals on SR-198 in Salem to verify needed line of sight for wireless connection.
- ❖ **US-40 CCTV/Signal connections (12805):** STRATA installed connection electronics to eight signals in the basin area. Negotiations with Kearns hub management necessary to establish STRATA WAN connection in Salt Lake City to complete integration.
- ❖ **Vernal; US-40 @ 2100 West Signal/CCTV (13018):** Signal operational. Installation of CCTV complete. Added to the STRATA list of locations in need of connection.
- ❖ **Roosevelt; US-40 @ 2000 West Signal/CCTV (12980):** Signal operational. Installation of CCTV complete. Added to the STRATA list of locations in need of connection.
- ❖ **Provo Canyon RWIS/VMS (11410):** Construction complete. Performed LFOT and inspection punch list.
- ❖ **US-189; State Park to Rock Cut passing Lanes (11415):** Project in advertisement.
- ❖ **Fiber connection to three Maintenance Sheds (13681):** Fiber installation completed. Began Integration.
- ❖ **Spanish Fork; SR-156; 300 South to M.P. 2 (9976):** Project in advertisement.
- ❖ **Roosevelt; US-40 @ 1500 East Signal/CCTV (13853):** Signal operational. Installation of CCTV complete. Added to the STRATA list of locations in need of connection.
- ❖ **Provo; SR-256; 800 East to Univ Ave BRT (10266):** ATMS design of micro fiber and two CCTV's ongoing.
- ❖ **US-40; Myton Bench roadway widening (11358):** With existing STRATA fiber available to us for future deployments, it was determined to not pursue UDOT fiber installation.
- ❖ **Spanish Fork; Canyon Rd @ 2550 E Signal (10960):** Under construction.
- ❖ **Provo; US-89 (300 S); 100 East to 700 East:** Held PS&E.
- ❖ **Heber; US-40; 250 South & 100 North Signals (14105):** Held PS&E.
- ❖ **Lindon; US-89 @ Center St. (12839):** NTP given.
- ❖ **Ut. Co. Signal Interconnect (13244):** Held project kickoff.
- ❖ **Eagle Mountain; SR-73 @ Mt. Airey Dr. (14163):** Held PS&E. Ordered state furnished materials.

Region 4

- ❖ **St. George:** This project is complete, except for some city and UDOT fiber coordination.
- ❖ **Pine Creek Truck Climbing Lane:** This project is nearly complete.
- ❖ **Fiber upgrade for US-6, Helper and Price Signal Integration:** Telecom work has been completed. UDOT is ready to complete the final contractor package for a procurement contract. We are waiting for decisions to be made in regard to additional solar powered sites to be added to the construction package.
- ❖ **Beaver Truck Climbing Lane:** Project is under construction.
- ❖ **Cedar City Fiber:** We have received bids back from two contractors and decided to post-pone the project due to budgetary reasons.
- ❖ **Price, Helper fiber and Interconnect:** This project has been completed.
- ❖ **Beaver Shed and Fiber HUB:** We have received bids from three contractors and have awarded the contract to Hidden Peak Electric. Due to weather they will be looking at February to begin.



ITS Standards/Contracts

ITS Standards and Specifications

Work continued on the NEC review with TOC electrical staff providing commentary that was later discussed in a meeting with Narwhal Electrical Engineering staff. Final acceptance of the changes is expected in February 2016.

Work continued to revise the freeway management portion of the AT Series Standard Drawings. A consolidation of the drawings is underway to reduce and re-organize the drawings series.

Work on the ATMS Solar Powered Site Standards continued and draft general arrangements were delivered.

Met with Curt McCuiston and Robert Stewart to discuss the ATMS specifications and ITS equipment submittal process. Several portions of the ATMS specifications were discussed and will be reviewed to support the quality group's consolidation efforts.

Procurement

The Campbell Scientific and Vaisala contracts will expire in May 2016. A meeting was set up to discuss renewing the contracts for the RWIS weather group.

The Wesco contract to supply electrical accessories and parts will expire this summer. It will be set up for renewal.

The Intermountain Fuse contract will expire in summer. This contract is to supply electrical fuses and fuse holders for traffic operations and will be renewed.

Research was done to see if a vendor could supply a 60 foot CCTV "non - lowering" pole. Quotes were obtained for a prototype version that were close in price to the existing contract price for the 60 ft. CCTV lowering pole.



©Hilary B. Price



"Just a darn minute! — Yesterday
you said that X equals two!"

Acronyms

CCTV	Closed Circuit Television	DPS	Department of Public Safety
EIS	Emergency Information System	HAR	Highway Advisory Radio
I2TMS	Integrated Interagency Traffic Management System		
ITS	Intelligent Transportation System	LFOT	Local Field Operations Test
MIC	Manager in Charge	MOT	Maintenance of Traffic
RWIS	Road-Weather Information System	TAC	Technical Advisory Committee
TMD	Traffic Management Division	TMS	Traffic Monitoring Station
TOC	Traffic Operations Center	VMS	Variable Message Sign

